

ABSTRACT

A dynamic pressure bearing device and a spindle motor used for a magnetic disk drive device capable of increasing an impact resistance, reducing A-PRO (oscillating motion of shaft), reducing a variation in rigidity of bearings against a variation in temperature, suppressing a current loss, and reducing a size and a thickness, the spindle motor as one embodiment wherein a thrust plate and a shaft are formed of a stainless steel integrally with each other to form a first integral member, a sleeve and a hub are formed of an aluminum silicon alloy integrally with each other to form a second integral member, the coefficient of linear expansion of the first integral member is set within $17 \times 10^{-6} \pm 5\%$, the coefficient of linear expansion of the second integral member is set within $14 \times 10^{-6} \pm 5\%$ within the range of 0 to 100 ° C, the inner diameter of the sleeve is set within the range of 0.6 to 3 mm, the axial thickness of a thrust plate portion is set to 0.1 to 0.7 mm, the hardness of the second integral member is reduced less than that of the first integral member, a dynamic pressure groove for radial bearing is provided at the portion thereof opposed to the shaft, a first thrust dynamic pressure groove is provided at the position of the counter plate opposed to the thrust plate, and a second thrust dynamic groove is provided at the sleeve portion thereof.